



INDIVIDUAL FACTORS AFFECTING ADMINISTRATIVE INNOVATION IN LEBANON

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ABSTRACT

Purpose: This paper has two main goals: to assess the level of innovation among Lebanese civil servants; the second to test the impact of factors such as age and education on bureaucratic innovations.

Design/methodology/approach: A questionnaire was sent to 300 Lebanese civil servants during September 2016. The data gathered were then analysed using, first - cross tabulations between education level and indicators of innovation; second - an ANOVA (Analysis of Variance Test) test to determine the strength of the hypothesis; third - Pearson correlations.

Findings: The paper's findings indicate that innovation among employees could be greatly enhanced. The findings also suggest that young employees tend to be more innovative on the job; however, there was an inverse relationship between age and innovation, but only up to a certain level.

Keywords: Lebanese civil servants; innovation; bureaucratic innovations

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INTRODUCTION

Prospects in Administrative Innovation in Higher Education

The turmoil of the political, economic and social change that has happened in the Middle East after the Spring Uprising in 2009 has weakened the developmental role of the government, especially when it comes to building the nation. It is a fact that the role of governments, and particularly the bureaucracies, must provide the lead and the initiative for the start of any development process. Most underdeveloped bureaucracies in the Middle East, including Lebanon, failed to act as an initiator of this development. These bureaucracies lacked the primary tools of problem solving. The inability of Middle Eastern bureaucracies to play a forceful role in the development process has been attributable to the conformist behaviour of its civil servants.

The present paper has two objectives. The first objective is to provide an empirical assessment of the innovation level of the bureaucracy in Lebanon. The second objective is to test the impact of factors such as age and education on bureaucratic innovation. Confirmation of this hypothesis reveals that overcoming the traditional attitudes of civil servants is a matter of time, while rejecting this hypothesis indicates that the behaviour of civil servants is entrenched in the culture of Lebanon and hence is very hard to change.

LITERATURE REVIEW

Innovation

Managerial innovation helps create new solutions to old or conventional problems. Its link to efficient performance and, therefore, to good decision-making will be defined and rationalised in this section.

Great attention has been paid to innovation in the literature during the last 10 years. The major qualities of an innovative person are listed as (a) having little respect for traditional knowledge or practice, (b) dealing with uncertainties and risks, (c) generating new ideas (Nagano et al., 2014). Operational definitions vary markedly from study to study and from field to field. Most definitions of innovation focus on the ability to create and find solutions to new problems (Palmer and Leila, 1988). Literature (e.g., Guilford et al., 1968; Maltzman, 1960; Dumas and Mintzberg, 1991) supports the idea that creative performance is conducive to success. Moreover, an innovative approach to the daily mix of unforeseen problems enables employees to contribute more to the success of the organisation (Eisenberger and Byron, 2011).

Kirton is among the leaders who tried to identify the different types of behaviour of innovators and adaptors. According to Kirton (1980), the adaptor fits better in the bureaucracy than the innovator since he is more conforming to rules and regulations. While the innovator faces problems in dealing with his peers in the bureaucracy because of his little respect for social norms and increased risk (Bobic et al., 1999). Furthermore, the Adaptation-Innovation theory posits that individuals have different decision-making styles, creativity and problem solving characteristics. Adaptors are more likely to produce decisions that reinforce the paradigm, while innovators tend to make decisions that threaten the paradigm. Normally, the outcome of the task determines its level of innovation (Kirton, 1980).

In this sense, because of the inherent vagueness of existing conceptualisations of innovation, this study approached the assessment of innovation from five different perspectives following the definition of innovation listed above. These perspectives are:

- the tendency towards creativity;
- the tendency towards risk taking;
- the predisposition of employees to accept new ideas;
- the predisposition to challenge social and traditional practices that pose a problem to innovation; and
- finally the level of creative decision-making.

Lebanese bureaucracy was trapped in individualistic, rigid and arbitrary tendencies. Decision-making in Lebanon tends to be highly individualistic, mainly because of the dominance of clientelism and the lack of institutionalisation among the different government branches.

A major influence from the Ottomans that has shaped the bureaucracy is the use of practices of *wasta* and *baksheesh* (a Turkish word still used today). These practices have kept Lebanese bureaucracy stuck in traditionalism, and led the Lebanese administration to become highly politicised. This opened the door for some politicians to establish a new “parallel administration” inside the government and enforce the prerogatives of their “counsellors” (Daher, 2004, p. 18). Moreover, positions in the public sector became rewards given by the *zuama* to their followers. Closely related to clientelism, Lebanese bureaucracy is built on the principle of sectarianism. Similar to political positions, high administrative positions have been shared based on the principle of confessionalism, to ensure equal and equitable representation, often resulting in placing the wrong person in a position simply because of his sect.

On the same note, Nakib and Palmer (1976) argue that employees in the public sector are motivated by personal interests in the work context. They give priority to helping a relative, a friend, a member of the same sect or same community (Nakib and Palmer, 1976). In many instances, civil servants may start with the papers and transactions pertinent to his group while stalling with others (Saadeh, 1993, p. 102). We can safely say that quality and improvement were sacrificed at the expense of confessional exploitation. This divided loyalty among civil servants strengthens the networking connections between people who have particular political interests, and hence influences the decision-making process. This particularistic behaviour is conducive to suspicion of innovation and change among civil servants.

This goes without saying that the existence of such attitudes is antithetical to the acceleration of administrative, social and national development. Particularism leads to distrust between the government and the people on a larger scale. On a broader scale, particularistic features makes civil servants less receptive to accepting new ideas; they feel threatened by its mere presence.

RESEARCH QUESTIONS AND STATEMENT OF HYPOTHESES

Within this context, the purpose of this study is to provide an empirical assessment of the level of innovation among civil servants in Lebanon. The objective is to find out whether civil servants

do fit in the model portrayed above and to what extent. For this reason, the study will answer the following three research questions:

1. What factors are associated with higher levels of behavioural innovation?
2. Does age and education affect behavioural innovation?
3. How can behavioural capacity be strengthened?

Accordingly, the hypotheses to be tested are the following:

1. the level of innovation among the Lebanese bureaucrats is low;
2. there is a direct relationship between education and innovation;
3. there is an inverse relationship between age and innovation.

METHODOLOGY

The research surveyed in this paper is based on a questionnaire with 300 Lebanese civil servants conducted during September 2016. Questionnaire items to test the above three hypotheses appear in the body of this paper and revolve around five categories.

1. respondents were presented with one question designed to measure the level of creativity;
2. three questions were designed to measure the level of risk taking;
3. one question was designed to measure the predisposition of employees to accept new ideas;
4. the respondents were presented with two questions designed to measure their predisposition to challenge social and traditional practices that pose a problem to innovation;
5. respondents were presented with a battery of questions aimed at testing the employees' level of creativity in their everyday decision-making (Palmer and Leila, 1988).

In addition, questionnaire items were pretested for validity and reliability. Reliability was tested by a pre-test run on a small community of the employees before the final administration of the questionnaire. This pre-test included employees from different departments, age levels and different educational background. The importance of the pre-test lies in its ability to alleviate reliability problems such as inconsistency in the questionnaire design. Both construct and content validity types were justified based on the theoretical background of the variables. Definitions of concepts related to performance were extracted from reliable books, previous theses and research studies. All questions were formulated based on theoretical definitions.

Level of Innovation among Lebanese Bureaucrats

Ten questions were used as measures of innovation. The tests and descriptions appear in Tables 1–5.

Question 1 of Table 1 measures the predisposition of the employees toward creativity. The percentage distributions of this question show that the level of creativity among employees is moderate; it is not too low. It seems that around 44% of employees are conformists, in contrast to 46% who are willing to try new ideas.

Questions 1, 2 and 3 of Table 2 assess the predisposition of employees to take risks. Risk evasiveness is a universal feeling. Many decision theorists agree that people tend to avoid taking

Table 1 Creativity

	<i>Frequency</i>	<i>Valid Percentage</i>	<i>Cumulative Percentage</i>
Strongly Agree	58	20.5	20.5
Agree	66	23.3	43.8
Neutral	29	10.2	54.1
Disagree	88	31.1	85.2
Strongly Disagree	42	14.8	100.0
Total	283	100.0	

Source: Devised by author

risks and prefer to stick to outcomes that are certain (Larrick, 1993). The percentage distributions of these questions reflect a low level of risk taking.

Question 1 of Table 2 assesses the predisposition of employees toward risks. Around 53% of the respondents said that they prefer to let their supervisor decide on an unclear problem, while 14% were neutral in answering this question; this shows negativity in dealing with the issue of risk. This means that around 70% of the respondents are afraid to take risks. Approximately 32% of respondents said that they are willing to take risks for an unclear solution. This number cannot be discarded, as more than a quarter of the respondents like to be involved in decision-making.

Question 2 of Table 2 assesses the reluctance of employees to take risks. The answer was striking in its frankness, with some 65% of the respondents indicating that taking risks is out of the question. In much the same manner, only 19% of the respondents classified job security as not important to them in Question 3. Statistics show that the level of risk taking is very low among employees. The result of the risk taking scale can only be interpreted as an obstacle to innovation. However, a small portion of employees is willing to take risky decisions, which is a good start and should be built upon.

Acceptance of new ideas was measured using one indicator as shown in Table 3. Responses indicate preponderance among the employees, as around 65% are hesitant to plunge into change, especially when the consequences are sudden and abrupt. However, around 25% of the employees are not afraid to initiate change, which is a number that should not be taken for granted.

Two questions of Table 4 measure the predisposition of employees to challenge social and traditional norms. These two questions reflect a felt predisposition that employees might be reluctant to challenge social and traditional norms. Question 1 of Table 4 assesses the attachment of employees to traditional social values. Separating religion from the state is a controversial issue in Lebanon, and in the Arab world in general. The responses were surprising. Around 90% of the responses supported the idea of separation between the state and religion. The data suggest that a large faction of employees is willing to challenge traditional values and hence to change and innovate. Around 55% of the respondents think that we have copied our bureaucracies from the West. This suggests that individuals predisposed against change can hardly be expected to innovate on its behalf; this is because traditional values are deeply embedded in the social system and could be difficult to shake. Overall, however, we can safely conclude that there is a large predisposition of the respondents who are willing to challenge social and traditional norms.

Table 2 Risk Taking
Question 1 I prefer to let my supervisor decide on a problem with an unclear solution

		<i>Frequency</i>	<i>Percentage</i>	<i>Valid Percentage</i>	<i>Cumulative Percentage</i>
Valid	Strongly Agree	53	18.7	18.7	18.7
	Agree	98	34.6	34.6	53.4
	Neutral	41	14.5	14.5	67.8
	Disagree	57	20.1	20.1	88.0
	Strongly Disagree	34	12.0	12.0	100.0
Total		283	100.0	100.0	

Question 2 When making investments you prefer to

		<i>Frequency</i>	<i>Percentage</i>	<i>Valid Percentage</i>	<i>Cumulative Percentage</i>
Valid	Norisk	170	60.1	65.1	65.1
	Moderate Risk	83	29.3	31.8	96.9
	High Risk	8	2.8	3.1	100.0
	Total	261	92.2	100.0	
Missing	5	22	7.8		
Total		283	100.0		

Question 3 How do you rate job security that the job provides?

		<i>Frequency</i>	<i>Percentage</i>	<i>Valid Percentage</i>	<i>Cumulative Percentage</i>
Valid	Very Important	63	22.3	22.3	22.3
	Important	74	26.1	26.1	48.4
	moderately Important	92	32.5	32.5	80.9
	Not Important	54	19.1	19.1	100.0
	Total	283	100.0	100.0	

Source: Devised by author

This is an important finding that can be related to the “relative” social openness and the consociational system in Lebanon.

Reponses seem to reflect a low level of innovation in decision-making among employees. Around 67% said that they would refer back to their supervisors before making any decision; this is a high number. Moreover, there is a high level of conformity in the sense that around 95% of the respondents answered that following rules is the best option to get work done at the University, and that they would delay making a decision if they were uncertain of its outcomes. Around 84% of the respondents said that they would refer back to similar problems in the past. The level of conformity is high among employees; they would be classified as classic adaptors in decision-making.

Table 3 Acceptance of New Ideas
Question 1 Introducing change too rapidly might be worse than changing too slowly

		<i>Frequency</i>	<i>Percentage</i>	<i>Valid Percentage</i>	<i>Cumulative Percentage</i>
Valid	Strongly Agree	62	21.9	21.9	21.9
	Agree	122	43.1	43.1	65.0
	Neutral	32	11.3	11.3	76.3
	Disagree	54	19.1	19.1	95.4
	Strongly Disagree	13	4.6	4.6	100.0
Total		283	100.0	100.0	

Source: Devised by author

Table 4 Challenge of Traditional Values
Question 1 I agree with separation of religion from the state

		<i>Frequency</i>	<i>Percentage</i>	<i>Valid Percentage</i>	<i>Cumulative Percentage</i>
Valid	Strongly Agree	186	65.7	65.7	65.7
	Agree	67	23.7	23.7	89.4
	Neutral	18	6.4	6.4	95.8
	Disagree	8	2.8	2.8	98.6
	Strongly Disagree	4	1.4	1.4	100.0
Total		283	100.0	100.0	

Question 2 We have tried too hard to copy Western bureaucracies without worrying about our own heritage

		<i>Frequency</i>	<i>Percentage</i>	<i>Valid Percentage</i>	<i>Cumulative Percentage</i>
Valid	Strongly Agree	58	20.5	20.5	20.5
	Agree	94	33.2	33.2	53.7
	Neutral	39	13.8	13.8	67.5
	Disagree	67	23.7	23.7	91.2
	Strongly Disagree	25	8.8	8.8	100.0
Total		283	100.0	100.0	

Source: Devised by author

The overall conclusion that can be extracted from the previous analysis is that the level of creativity among public employees is moderate. This is an important finding as around 40% of the respondents were willing to engage in creative ways to achieve the task rather than to stick to normal procedure. However, they scored low on risk taking and on acceptance of new ideas. This means that public employees are willing to create new ways of achieving the task, as long as it does not involve risky decisions. Results suggest that the respondents are not afraid to embark on social and traditional change, which leaves hope for future progress. However, the tools to

implement the change remain intangible as half of the respondents have a predisposition against change. Finally, they do not engage in creative decision-making, even though they do not mind taking routine decisions. There seems to be an over emphasis on the delivery of work under the umbrella of rules and norms at the University. It seems that the respondents are willing to challenge social and traditional values, but not work related issues. The reason behind this could be the nature of the public service, which emphasises rules in getting the job done without any encouragement from the system as a whole to engage in innovation. Overall, we can safely conclude that the level of innovative behaviour among the employees is low.

Table 5 Creative Decision-Making

Question 1 It is best to consult with one's supervisor before making even small decisions

		<i>Frequency</i>	<i>Percentage</i>	<i>Valid Percentage</i>	<i>Cumulative Percentage</i>
Valid	Strongly Agree	58	20.5	20.5	20.5
	Agree	131	46.3	46.3	66.8
	Neutral	6	2.1	2.1	68.9
	Disagree	74	26.1	26.1	95.1
	Strongly Disagree	14	4.9	4.9	100.0
	Total	283	100.0	100.0	

Question 2 One should always follow the rules in order to get things done efficiently

		<i>Frequency</i>	<i>Percentage</i>	<i>Valid Percentage</i>	<i>Cumulative Percentage</i>
Valid	Strongly Agree	172	60.8	60.8	60.8
	Agree	99	35.0	35.0	95.8
	Neutral	5	1.8	1.8	97.5
	Disagree	7	2.5	2.5	100.0
	Total	283	100.0	100.0	

Question 3 It is better to delay taking a decision for further consideration than risk making a mistake

		<i>Frequency</i>	<i>Percentage</i>	<i>Valid Percentage</i>	<i>Cumulative Percentage</i>
	Strongly Agree	140	49.5	49.5	49.5
	Agree	128	45.2	45.2	94.7
	Neutral	7	2.5	2.5	97.2
	Disagree	7	2.5	2.5	99.6
	Strongly Disagree	1	.4	.4	100.0
	Total	283	100.0	100.0	

Question 4 In making a new decision, one should refer first to similar past problems

	<i>Frequency</i>	<i>Percentage</i>	<i>Valid Percentage</i>	<i>Cumulative Percentage</i>
Strongly Agree	95	33.6	33.6	33.6
Agree	141	49.8	49.8	83.4
Neutral	20	7.1	7.1	90.5
Disagree	25	8.8	8.8	99.3
Strongly Disagree	2	.7	.7	100.0
Total	283	100.0	100.0	

Source: Devised by author

EDUCATION AND INNOVATION

Having found that Lebanese civil servants are moderate to low on innovation levels, it is now possible to examine the hypothesis that innovation bears a direct relationship on education. If the hypothesis is to be sustained, one would expect the survey data to indicate that the most educated civil servants are the most innovative. Consequently one could take hope that the more debilitating aspects of rigid decision-making and challenging traditional values fade away with the recruitment of young and well-educated civil servants.

For this reason, it was hypothesised that the more educated the employees, the higher the level of innovation will be among the employees. For this reason, three types of tests were used. First, cross tabulations between the education level and the indicators of innovation were run; strong correlations between the different variables relied on the significant value of the chi-square cross tabulations. Second, an ANOVA test was carried out to determine the strength of the hypothesis. Third, Pearson correlations were run between the indicators of innovation and the education level.

The paper tests if there are significant differences in the innovation levels of employees compared to the different educational levels. This was done through the ANOVA test and running cross tabulations. Table 6 shows that there is a significant difference between the different educational levels (Baccalaureate, Bachelor, Masters) in the predisposition of innovation; the significance level between Masters' degree and Lebanese Baccalaureate is 0, and the significance level between Masters and Bachelor is 0.06.

In addition, Table 7 shows that there is a strong relationship between the various indicators of innovation and the level of education of public employees. The coefficient for measuring the strength of the relationship (chi-square) is available for all representative variables in Table 7. Dashes in blank cells indicate that the relationship between the various indicators was either non-significant or the relationship did not meet the criteria of robustness. The chi-square coefficient is significant for scores less than or equal to 0.05, as well as between creative decision-making and the level of education. In detail, there is a strong relationship between the level of education and the level of risk taking (chi-square: 0.01, 0) respectively. In addition, there is a strong relationship between the level of education and challenging traditional values (chi-square: 0.05). There is also a strong relationship between the level of education and following rules (chi-square: 0.03).

In addition, we can infer from Table 8 that there is a direct relationship between the level of education and the level of innovation as the significance level is $+0.02$, less than or equal to 0.05 . A Pearson correlation, which indicates the strength and direction of two variables, is available for all representative variables in Table 8. A negative correlation means that the two variables are inversely related, whereas a positive correlation indicates that the two variables are directly related. Correlations are significant at the 0.02 level.

In summary, the results were in the hypothesised direction. So, we can safely say that there is a direct relationship between education and the various innovation levels.

AGE AND INNOVATION

The literature on development and innovation assumes young people to be more receptive to new ideas than older people. We had anticipated that there would be an inverse relationship between innovation and age.

Table 6 ANOVA Education* Innovation

Dependent Variable:		Innovation				
LSD						
(I) Level of Education		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Lebanese Baccalaureate	Bachelor Degree	-1.5178-*	.73669	.040	-2.9680	-.0677
	Masters' Degree and Higher	-2.8913*	.71862	.000	-4.3059	-1.4767
Bachelor Degree	Less than Baccll	-.3166	1.01774	.756	-2.3200	1.6868
	Lebanese Baccalaureate	1.5178*	.73669	.040	.0677	2.9680
	Masters' Degree and Higher	-1.3735	.73869	.064	-2.8276	.0806
Masters' Degree and Higher	Less than Baccll	1.2012	1.03201	.245	-.8303	3.2327
	Lebanese Baccalaureate	2.8913*	.71862	.000	1.4767	4.3059
	Bachelor Degree	1.3735	.73869	.064	-.0806	2.8276
Less than Baccll	Less than Baccll	2.5747*	1.01919	.012	.5684	4.5810
	Lebanese Baccalaureate	.3166	1.01774	.756	-1.6868	2.3200
	Bachelor Degree	-1.2012	1.03201	.245	-3.2327	.8303
	Masters' Degree and Higher	-2.5747*	1.01919	.012	-4.5810	-.5684

Source: Devised by author

Table 7 Chi-Square of Education* Innovation

		<i>Chi-Square</i>
Innovation	Low Creativity	
	Low supervisor decision	
	Winning money for certain	0.01
	High job security	0
	Rate of change	
	Separating State from Religion	
	Copy Western Bureaucracies	0.05
	Low consultation with supervisor	
	Follow rules	0.03
	Delay of decision	
	Reference to similar past problems	

Source: Devised by author

Table 8 Correlation between Education and Innovation

		<i>Correlations</i>	
		<i>Level of Education</i>	<i>Level_Innovation</i>
Level of Education	Pearson Correlation	1	.133*
	Sig. (2-tailed)		0.025
	N	283	283
Level_Innovation	Pearson Correlation	.133*	1
	Sig. (2-tailed)	0.025	
	N	283	283

*Correlation is significant at the 0.05 level (2-tailed).

Source: Devised by author

Table 9 shows that an inverse relationship exists between the age of employees and the creativity level (Pearson correlations: -0.2), challenging traditional values (Pearson correlations: -0.13), and creative decision-making (Pearson correlations: -0.1 , -0.2). Similarly, running an ANOVA test on the indicators of innovation and the age of employee reveals that there a significant difference exists between the level of innovation and the age of employees, as shown in Table 10. This is because the significance level is lower than 0.05, exhibiting a difference in the level of innovation between the different age ranges. Therefore, as age decreases the level of creativity increases, challenging traditional values increases, creative decision-making increases and the level of risk taking increases. So, we can infer that there is an inverse relationship between age and the various indicators of innovation, and hence the hypothesis is maintained.

Table 9 Correlations between Innovation and Age

	Age of Employee	
	Pearson Correlation	Sig. (2-tailed)
Creativity	– .259**	.000
Risk_taking		
Acceptance_new_ideas		
Challenge_tradiitonal_values		
Challenge_traditional_values_1	– .131*	.028
Creative_DM_consult_sup	– .131*	.028
Crative_DM_follow_rules	– .283**	.000
Creative_DM_delay_decision		
Creative_DM_similar_decisions		
Risk_taking_level	– .148*	.017
Maintian_skills_security	– .163**	.006

Source: Devised by author

Table 10 ANOVA: Innovation and Age

(I) classes_age		Mean Difference (I–J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
30–	31–40	.7810	.94674	.410	–1.0826	2.6447
	41–50	2.2748*	.87005	.009	.5621	3.9875
	51+	2.9896*	.84564	.000	1.3249	4.6542
31–40	30–	–.7810	.94674	.410	–2.6447	1.0826
	41–50	1.4938	.82867	.073	–.1375	3.1250
	51+	2.2085*	.80300	.006	.6278	3.7892
41–50	30–	–2.2748–*	.87005	.009	–3.9875	–.5621
	31–40	–1.4938	.82867	.073	–3.1250	.1375
	51+	.7148	.71097	.316	–.6848	2.1143
51+	30–	–2.9896–*	.84564	.000	–4.6542	–1.3249
	31–40	–2.2085–*	.80300	.006	–3.7892	–.6278
	41–50	–.7148	.71097	.316	–2.1143	.6848

Source: Devised by author

DISCUSSION OF THE FINDINGS

In discussing the influence of education on behavioural capacity, several conclusions would appear to be in order. Educated employees seem more predisposed to taking risks, whether socially or at work, tend to challenge traditional values, and be more creative in decision-making. This proves that education helps to increase innovation in the Lebanese public service.

On another note, results reveal that there is a curvilinear relationship between the age of an employee and the level of creative decision-making, as shown in Figure 1. This means that creative decision-making does decrease as age increases, but only up to a certain point. It seems that creative decision-making is lowest among employees in their thirties, then it goes up again as employees get older. This would suggest that employees in their thirties are not motivated to indulge in creative decision-making. This finding is worth studying, especially given that this age faction scores high on creativity. Could employees within the age range 31–40 be suffocated by the authoritarianism of supervisors? And hence turn into rigid employees?

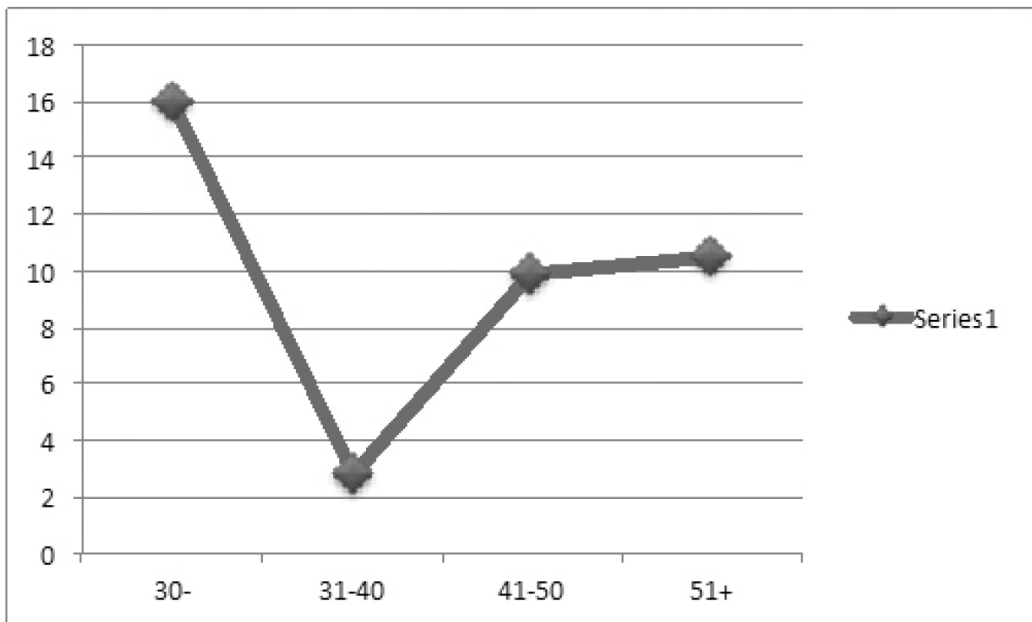


Figure 1 Creative Decision Making vs. Age

Source: DeVised by author

CONCLUSIONS AND RECOMMENDATIONS

The analysis suggests the following:

1. Decision-making innovation was concentrated in young educated officials holding Masters' degree and higher.
2. The educational level influences the innovation levels by affecting the level of acceptance of new ideas and creative decision-making. Furthermore, the management must take into consideration employees in their thirties who seem to have problems with their entourage that is affecting their work.
3. A third fundamental conclusion of the article is that administrative enhancements can be introduced in relation to increasing the level of creative decision-making and the level of creativity among employees as this has a direct relationship with increasing performance.
4. A fourth conclusion to be drawn is that recruiting young and educated employees based on their competency levels may alleviate behavioural problems and may lead to improved performance. The data analysis shows that the innovation and creative levels of employees can be enhanced when recruiting young employees with the appropriate diplomas.

REFERENCES

- Bobic, M., Davis, E. and Cunningham, R. (1999), The Kirton Adaption-Innovation Inventory: Validity Issues, Practical Questions, *Review of Public Personnel Administration*, Vol. 19, No. 2, pp. 18–31.
- Daher, M. (2004), *Public Administration and Governance*. Unpublished papers.
- Dumas, A. and Mintzberg, H. (1991), Managing the Form, Function, and Fit of Design, *Design Management Review*, Vol. 2, No. 3, pp. 26–31.
- Eisenberger, R. and Byron, K. (2011), Rewards and Creativity. In: Runco, M.A. and Pritzker, S.R. (Eds): *Encyclopedia of Creativity, Second Edition*, Vol. 2, pp. 313–18, San Diego: Academic Press.
- Guilford, J.P., Hendricks, M., Hoepfner, R. (1968), Solving social problems creatively, *The Journal of Creative Behavior*, Vol. 2, No. 3, pp. 155–64.
- Kirton, M. (1980), Adaptors and Innovators in Organizations. *Human Relations*, Vol. 33, No. 4, pp. 213–24.
- Larrick, R.P. (1993), Motivational Factors in Decision Theories: The Role of Self-Protection. *Psychological Reports*, Vol. 113, No. 3, pp. 440–50.
- Maltzman, I. (1960), On the training of originality. *Psychological Review*, Vol. 67, No. 4, pp. 229–42.
- Nagano, M.S., Stefanovitz, J.P. and Vick, T.E. (2014), Innovation management processes, their internal organizational elements and contextual factors: An investigation in Brazil. *Journal of Engineering and Technology Management*, Vol. 33, pp. 63–92.
- Nakib, K. and Palmer, M. (1976), Traditionalism and Change among Lebanese Bureaucrats. *International Review of Administrative Sciences*, Vol. 42, No. 1, pp. 15–22.
- Palmer, M. and Leila, A. (1988), *The Egyptian Bureaucracy*. Syracuse University Press. New York.
- Saadeh, S.A. (1993), *The Social Structure of Lebanon: democracy or servitude?*. Beirut: Dar An-Nahar.

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